

Application No. 10/758,899
Filed: January 16, 2004
TC Art Unit: 2646
Confirmation No.: 7075

AMENDMENT TO THE CLAIMS

In the claims:

Cancel claims 1-15

16. (Original) A hearing aid comprising:

a hearing aid case configured to be worn by a person;

a first microphone fixed to the hearing aid case and exposed to sound propagating through free air and sound propagating through the hearing aid case;

a second microphone fixed to the hearing aid case and sealed from sound propagating through air and exposed to sound propagating through the hearing aid case;

subtractive means for receiving electrical outputs from the first microphone and the second microphone and subtracting one of the electrical outputs from the other of the electrical outputs to produce a resulting electrical signal representative of audio signals transmitted through air; and

a transducer element operative to change the resulting electrical signal into an audio signal.

17. (Original) The hearing aid of claim 16, wherein the first microphone and the second microphone have substantially the same audio to electrical conversion characteristics.

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18. (Original) The hearing aid of claim 16, wherein the subtractive means comprises a digital signal processor.

19. (Original) The hearing aid of claim 18, wherein the digital signal processor is operative to produce at least one audio test signal out of the transducer element.

20. (Original) The hearing aid of claim 19, wherein the digital signal processor is operative to use the audio test signal to adjust an electrical gain and phase of one of the first microphone and the second microphone to minimize audio signals propagating through the hearing aid case from appearing in the resulting electrical signal.

21. (Original) The hearing aid of claim 16, wherein a gain and phase of an audio signal from one of the first microphone and the second microphone are variable with respect to another of the first microphone and the second microphone to minimize audio signals propagating through the hearing aid case from being present in the resulting electrical signal.

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22. (Original) The hearing aid of claim 16, wherein the second microphone is enclosed in a sealed enclosure within the hearing aid case.

23. (Original) The hearing aid of claim 22, wherein the sealed enclosure is fixed to the hearing aid case.

24. (Original) The hearing aid of claim 22, wherein the sealed enclosure is fixed to the subtractive circuitry.

25. (Original) The hearing aid of claim 16, wherein the second microphone is enclosed in a sealed enclosure fixed to an outside of the hearing aid case.

26. (Original) The hearing aid of claim 25, wherein the sealed enclosure is fixed to the subtractive circuitry.

27. (Original) The hearing aid of claim 16, wherein a distance between the first microphone and the second microphone is minimized.

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28. (Original) The hearing aid of claim 16, wherein the hearing aid case is configured to fit behind an ear of the person.

29. (Original) The hearing aid of claim 16, further comprising a power source in communication with the subtractive means.

30. (Original) The hearing aid of claim 29, wherein the power source comprises a battery.